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Dear Andy

Process heat – opportunities and barriers to lowering emissions

1. This is a submission by the Major Electricity Users' Group (MEUG) on the Ministry of Business, Innovation, and Employment (MBIE) and Energy Efficiency and Conservation Authority (EECA) technical paper Process Heat in New Zealand: Opportunities and barriers to lowering emissions, published 22 January 2019.¹
2. MEUG members have been consulted in the preparation of this submission. This submission is not confidential. Some members may make separate submissions.
3. The technical paper is a stocktake of process heat applications in New Zealand and potential opportunities and barriers for existing systems to transition to, or for greenfield process heat investments to choose, lower greenhouse gas emitting fuel sources. The paper, feedback on the paper and other MBIE and EECA work will assist development of a process heat action plan as required by the New Zealand Energy Efficiency and Conservation Strategy 2017-2022 published June 2017 (NZECCS 2017).²
4. The technical paper lists 17 barriers.³ The barriers are not categorised in terms of whether they are either:
 - true economic market failures; or
 - the varied commercial state of nature barriers for decision making found in any enterprise in any market with capital intensive plant.
5. By state of nature we mean the range of business attributes and business environment factors important to decision making that varies from business to business. For example, those factors can range from different sized process heat plants with different heat requirements, site or island specific (no gas in South Island) fuel options, the profitability of the enterprise and therefore ability to fund new process heat investments, through to decisions by management on whether to have in-house expertise on process heat systems

¹ URL <https://www.mbie.govt.nz/dmsdocument/4292-process-heat-in-new-zealand-opportunities-and-barriers-to-lowering-emissions> at <https://www.mbie.govt.nz/have-your-say/process-heat-in-new-zealand-opportunities-and-barriers-to-lowering-emissions/>

² Technical paper, paragraph 3 and NZECCS 2017, <https://www.mbie.govt.nz/building-and-energy/energy-and-natural-resources/energy-strategies-for-new-zealand/>

³ Barriers A to N, where Barrier J is counted as 3-barriers for Barriers J1 to J3.

or to use external consultants. Different businesses will have different commercial states of nature and therefore different capabilities to efficiently consider and implement changes to existing heat process systems. An important theme in this submission is that enterprises that, by virtue of decisions and resource allocations they have made in the past, are well placed to make efficient and correct decisions and implement plans for their process heat systems, should not subsidise enterprises that have chosen alternative parts of their business to focus on.

6. Another type of common commercial state of nature barriers to investors in the energy sector are the decisions of energy and resource sector regulators governing factors ranging from the prices and terms and conditions of services provided by electricity and gas monopolies through to resource consent requirements. There are ongoing debates with relevant regulators and monopolies about many of the regulatory settings ranging from regulated cost of capital to the service and terms of conditions of Transpower building and commissioning new dedicated customer assets. Suffice to say we think Transpower's charges are too high for the risk and service they provide, thereby increasing the cost to consumers of electrifying process heat plant and hence creating a barrier to change.
7. Apart from Barrier A (and part of Barrier J), as discussed later in paragraph 11, all the barriers identified in the technical report are variable commercial state of nature barriers that are enterprise or sector specific.
8. Potential economic market failures should be considered further, and action taken where the benefits of doing so exceed costs and the proposed solution has the highest net present value of all feasible options. Government interventions to adjust for variable commercial states of nature barriers are uneconomic subsidies with winners (the recipients) and losers (tax or levy payers). Uneconomic subsidies that do not address a true market failure inevitably have unintended consequences and reduce New Zealanders net well-being compared to not intervening. Two examples of unintended consequences would be:
 - Interventions to promote existing coal fired process heat to convert to use of biomass. That will have effects on the existing market for biomass such as wood processing manufactures, e.g. MDF, pulp and paper.
 - Carbon prices set by Government as a tax-gathering exercise driving up electricity prices to the point that it would be commercially uneconomic to electrify existing thermal fuelled process heat plant.
9. An example of uneconomic subsidies is the EECA work programme funded by a uniform unit levy on all electricity consumers. MEUG submissions on the annual draft appropriation requests by EECA have consistently refuted claims by EECA that all and individually each electricity user that pays the levy is better off than had they not paid a levy. Part of the EECA claims in support of the levy has been to conflate the varied commercial states of nature barriers for individual enterprises with economic market failures. Hence MEUG's recommendation on the Technical paper that the barriers listed be properly categorised and further work only consider true economic market failures.
10. There is one market failure not listed that affects the heat process market. That is a failure in the political market for a policy consensus to sustain the April 2018 decision by the government to cease offering new oil and gas exploration offshore permits and onshore permits other than, temporarily, Taranaki ("the gas ban"). Parliamentary opposition parties have promised to revoke that decision when the government changes. The recent NZIER report for PEPANZ on the economic cost of the gas ban versus not having a ban but allowing the market to transition towards a low carbon economy with increasing carbon prices supports the expectation the gas ban is not politically sustainable. Businesses considering existing heat process asset refurbishment, replacement or fuel switching

decisions, or greenfield projects, will be factoring in the timing of when government might change and therefore when future gas supplies, prices and security of supply will become more attractive to substitute for higher emission fuels. Internationally gas is seen as an excellent transition fuel and businesses in New Zealand competing in international markets will be aware of their competitors transitioning to gas.

11. The only clear potential market failure barrier listed is Barrier A: The cost of emissions is not fully priced. Note:

- There is an assumption in the descriptor of this barrier and the discussion in paragraphs 38 to 43 that the current NZ ETS carbon price and the range of possible carbon prices in the future published is less than the true externality cost of emissions. The technical paper provides no evidence to support that view. Disappointingly the technical paper claims the existing level of industrial allocation is a “market failure” (paragraph 43) and currently businesses receiving industrial allocations are being “sheltered” (paragraph 42). The misconception of businesses being sheltered is reflected in Q4 that asks, “Does the NZ ETS provide an incentive to significantly reduce emissions beyond current levels for business who receive industrial allocation?” This question has been the subject of policy debate since the allocation regime was put in place. The answer is yes, every tonne of emissions saved retains the full value of the emission price as the opportunity value of being able to sell a unit instead of having to surrender it remains.

The current status of industrial allocations is a position reached with government that reflects many factors and most critically the trade exposure and consequence to the New Zealand economy versus unnecessary burden on other parties if allocations are too generous. The level of allocations in the future is currently under consideration in different forums. It’s disheartening to read in an MBIE paper a preconceived view that the status quo is perceived as a market failure and current holders are being sheltered. This undermines confidence the work on considering the future of allocations is starting with an unbiased view at the outset and harms the constructive relationship businesses need with government to provide commercially sensitive information.

Instead of the current descriptor for Barrier A, MEUG believes this issue is better described as a potential market failure. Most agree greenhouse gas emissions create a negative externality. There are pockets of work globally on developing markets to discover efficient prices to reflect that externality. New Zealand is at the forefront with an all-gases, all-sectors ETS and a longer-term understanding that the ideal is to have carbon trading internationally.

Absent any evidence that New Zealand’s current ETS price and the future price may be in the range forecast estimated by various government agencies (e.g. most recently the Ministry for the Environment consultation paper and modelling last year backgrounding the rationale for the Zero Carbon Bill) differs materially, either too low or too high, from the true externality cost, then MEUG suggests re-phrasing Barrier A as “Uncertainty on future carbon prices to reflect true externality costs.”

- Businesses and households make investment decisions with uncertainty on future outcomes all the time. For export commodity manufacturers knowing what the long-term price for their commodity given exchange rate assumptions is usually more critical than uncertainty on factors of production provided those are sourced in a competitive market. Where material input costs are not derived in market settings, such as regulated line charges, the investment decisions will use a range of future scenarios to test the business case. Similarly, without a robust global market setting

carbon prices, New Zealand businesses making decisions on heat process investments will test the economics with a range of carbon prices from their own analysis of government agency publications and overseas trends.

For business the key for managing the uncertainty on what the future carbon price will be to reflect the negative externality is having confidence that the processes and institutions government is establishing to manage climate change issues are consistent with the long-term objective of a market set price for carbon. Similarly, business will support economy wide policies that also benefit the process heat sector such as the current consideration of changes to R&D tax credits. Business confidence will be eroded when ad hoc decisions or uneconomic subsidies are introduced, other than businesses that are the winners of such corporate welfare.

- Barrier J: High cost of electrical energy relative to other high carbon fuels, is partly a repeat of the issue of pricing a negative externality in Barrier A.
12. MEUG looks forward to further engagement and consultation on the development of a process heat action plan. Ideally, we would like to have a timeline of further work milestones and likely consultation steps and when decisions will be made. An example of best practice by a government agency for transparency and inclusiveness of their forward work programme is the Commerce Commission's steps for the balance of this year for the reset of Transpower's Individual Price-Quality Path.⁴ We encourage MBIE and EECA to consider publishing a similar forward timeline.

Yours sincerely



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⁴ <https://comcom.govt.nz/regulated-industries/electricity-lines/electricity-transmission/transpowers-price-quality-path/setting-transpowers-price-quality-path-from-2020>